

CLAIMS

What is claimed is:

- 1 1. A capacitor comprising:
 - 2 a body having first and second charge-storing elements in its interior, and
 - 3 having a plurality of exterior sides; and
 - 4 P separate terminals on at least three exterior sides, M of the separate
 - 5 terminals being coupled to the first charge-storing element, and N of the separate
 - 6 terminals being coupled to the second charge-storing element, wherein M, N, and P
 - 7 are positive integers, and wherein P=M+N.
- 1 2. The capacitor recited in claim 1, wherein the P separate terminals comprise
- 2 at least four separate terminals on four different ones of the plurality of exterior
- 3 sides.
- 1 3. The capacitor recited in claim 1, wherein the P separate terminals comprise
- 2 at least five separate terminals on five different ones of the plurality of exterior
- 3 sides.
- 1 4. The capacitor recited in claim 1, wherein the P separate terminals comprise
- 2 at least six separate terminals on six different ones of the plurality of exterior sides.
- 1 5. The capacitor recited in claim 1, wherein the body has a geometrical shape
- 2 of a rectangular solid.
- 1 6. A capacitor comprising:
 - 2 a body having an interior and a plurality of exterior sides;
 - 3 a first element to hold an electrical charge of a first polarity;
 - 4 a second element to hold an electrical charge of a second polarity;
 - 5 first and second terminals coupled to the first and second elements,
 - 6 respectively, and disposed on first and second ones of the plurality of exterior sides;
 - 7 and

8 a third terminal coupled to the first element and disposed on a third one of
9 the plurality of exterior sides, wherein the third terminal is electrically coupled to
10 the first terminal only via the first element.

1 7. The capacitor recited in claim 6 and further comprising:
2 at least one conductor within the interior;
3 wherein the third terminal is electrically coupled to the first terminal only via
4 the first element and the at least one conductor.

1 8. The capacitor recited in claim 6 and further comprising:
2 at least one additional conductor within the interior; and
3 a fourth terminal coupled to the second element and disposed on a fourth one
4 of the plurality of exterior sides, wherein the fourth terminal is electrically coupled
5 to the second terminal only via the second element and the at least one additional
6 conductor.

1 9. The capacitor recited in claim 8, wherein the third and fourth exterior sides
2 are on opposite sides of the body.

1 10. The capacitor recited in claim 6, wherein the first and second elements are
2 within the interior.

1 11. The capacitor recited in claim 6, wherein the first element is separated from
2 the second element by a dielectric material.

1 12. The capacitor recited in claim 6, wherein the body has a geometrical shape
2 of a rectangular solid.

1 13. The capacitor recited in claim 6 and further comprising:
2 at least one additional conductor within the interior; and

3 a fourth terminal coupled to the first element and disposed on a fourth one of
4 the plurality of exterior sides, wherein the fourth terminal is electrically coupled to
5 the first terminal only via the first element and the at least one additional conductor.

1 14. The capacitor recited in claim 13, wherein the third and fourth exterior sides
2 are on opposite sides of the body.

1 15. The capacitor recited in claim 6 and further comprising:
2 a fourth terminal coupled to the second element and disposed on a fourth one
3 of the plurality of exterior sides, wherein the fourth terminal is electrically coupled
4 to the second terminal only via the second element; and
5 a fifth terminal coupled to the first element and disposed on a fifth one of the
6 plurality of exterior sides, wherein the fourth terminal is electrically coupled to the
7 first terminal only via the first element.

1 16. The capacitor recited in claim 15 and further comprising:
2 a sixth terminal coupled to the second element and disposed on a sixth one
3 of the plurality of exterior sides, wherein the sixth terminal is electrically coupled to
4 the second terminal only via the second element.

1 17. An electronic assembly comprising:
2 a capacitor including
3 a body having first and second charge-storing elements in its interior,
4 and having a plurality of exterior sides; and
5 P separate terminals on at least three exterior sides, M of the separate
6 terminals being coupled to the first charge-storing element, and N of the
7 separate terminals being coupled to the second charge-storing element,
8 wherein M, N, and P are positive integers, and wherein $P=M+N$; and
9 at least one electrical element having a plurality of terminals coupled to the
10 P separate terminals of the capacitor.

1 18. The electronic assembly recited in claim 17, wherein the electrical element is
2 from the group comprising an electrical component and a substrate.

1 19. The electronic assembly recited in claim 18, wherein the electrical
2 component comprises a capacitor.

1 20. The electronic assembly recited in claim 18, wherein the electrical
2 component comprises an integrated circuit.

1 21. The electronic assembly recited in claim 17, wherein the P separate
2 terminals comprise four separate terminals on four different ones of the plurality of
3 exterior sides.

1 22. The electronic assembly recited in claim 17, wherein the P separate
2 terminals comprise five separate terminals on five different ones of the plurality of
3 exterior sides.

1 23. The electronic assembly recited in claim 17, wherein the P separate
2 terminals comprise six separate terminals on six different ones of the plurality of
3 exterior sides.

1 24. The electronic assembly recited in claim 17, wherein the capacitor body has
2 a geometrical shape of a rectangular solid.

1 25. A method of fabricating a capacitor having a plurality of exterior sides
2 comprising:

3 constructing first and second charge-storing elements that are separated by a
4 dielectric material;

5 forming P separate terminals on at least three exterior sides, M of the
6 separate terminals being coupled to the first charge-storing element, and N separate
7 terminals being coupled to the second charge-storing element, wherein M, N, and P
8 are positive integers, and wherein P=M+N.

1 26. The method recited in claim 25, wherein, in forming, at least four separate
2 terminals are formed on four different ones of the plurality of exterior sides.

1 27. The method recited in claim 25, wherein, in forming, at least five separate
2 terminals are formed on five different ones of the plurality of exterior sides.

1 28. The method recited in claim 25, wherein, in forming, at least six separate
2 terminals are formed on six different ones of the plurality of exterior sides.

1 29. The method recited in claim 25, wherein, in forming, the plurality of exterior
2 sides are of a rectangular solid.

1 30. A method comprising:
2 positioning a capacitor having separate terminals on at least three sides on a
3 substrate;
4 electrically coupling a separate terminal of a first side to a first terminal on
5 the substrate;
6 electrically coupling a separate terminal of a second side to a second
7 terminal on the substrate; and
8 electrically coupling a separate terminal of a third side to a third terminal on
9 the substrate.

1 31. The method recited in claim 30, wherein, in coupling, the first terminal on
2 the substrate comprises a conductive bar.

1 32. The method recited in claim 30, wherein, in coupling, the first and second
2 terminals on the substrate comprise conductive bars.

1 33. The method recited in claim 30, wherein, in coupling, an additional separate
2 terminal of the first side is electrically coupled to an additional terminal on the
3 substrate.

1 34. The method recited in claim 30, wherein, in coupling, the separate terminal
2 of the first side is electrically coupled to an additional terminal on the substrate.

1 35. A method comprising:
2 positioning a capacitor having P separate terminals on at least three sides
3 adjacent to a substrate having M terminals;
4 positioning an electrical element having N terminals adjacent to the
5 capacitor; and
6 electrically coupling the P separate terminals to the M terminals and N
7 terminals,
8 wherein M, N, and P are positive integers, and wherein $P=M+N$.

1 36. The method recited in claim 35, wherein, in positioning the capacitor, the
2 capacitor has P separate terminals on at least four sides.

1 37. The method recited in claim 35, wherein, in positioning the capacitor, the
2 capacitor has P separate terminals on at least five sides.

1 38. The method recited in claim 35, wherein, in positioning the capacitor, the
2 capacitor has P separate terminals on at least six sides.

1 39. The method recited in claim 35, wherein, in positioning the capacitor, the M
2 terminals of the substrate comprise at least one conductive bar.

1 40. The method recited in claim 35, wherein, in positioning the capacitor, the M
2 terminals of the substrate comprise two conductive bars, and the capacitor is
3 positioned between the two conductive bars.

1 41. The method recited in claim 35, wherein, in positioning the electrical
2 element, the N terminals of the electrical element comprise at least one conductive
3 bar.

- 1 42. The method recited in claim 35, wherein, in positioning the electrical
- 2 element, the N terminals of the electrical element comprise two conductive bars, and
- 3 the two conductive bars are positioned on either side of the capacitor.